

Claims US

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1. A processing line that is suited for the manufacture of edible W/O emulsion spreads and which line consists of at least two connected mixing and cooling devices through which line the starting materials for preparing a spread can be conducted consecutively for processing, where one of the cooling devices is a single-screw cooler of the type that is provided with a screw mounted in a barrel, where the distance of the flight of the screw to the inner wall of the barrel is 0.1 - 2 mm.

2. A processing line according to claim 1, where the distance of the flight of the screw to the inner wall of the barrel is 0.1 - 1 mm.

3. A processing line according to claim 1, which line comprises a first section with one or more devices for mixing, emulsifying, cooling, crystallisation and working the spread ingredients which section is suited for the preparation of a fat-continuous emulsion and a second section downstream from the first section which comprises the single-screw cooler.

4. A processing line according to claim 3, where the devices in the first section have been chosen from the group consisting of scraped surface heat exchangers, cooling coils, tubular heat exchangers, twin screws, pin stirrers, homogenizers, colloid mills and pressure valves.

5. A process for the manufacture of an edible fat continuous emulsion spread from usual ingredients, which process comprises a first treatment and a subsequent second

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treatment, where the first treatment consists of mixing the usual spread starting materials followed by a usual series of consecutive steps comprising emulsifying, cooling, crystallizing and working treatments in any suitable order and number for obtaining an intermediate liquid fat continuous emulsion, and where the second treatment of the process comprises cooling the intermediate emulsion in such way that it crystallizes and changes into a plastic emulsion spread, which cooling is performed by conducting the intermediate emulsion through a single-screw cooler of the type that is provided with a screw mounted in a barrel, where the distance of the flight of the screw to the inner wall of the barrel is 0.1 - 2 mm.

6. A process according to claim 5, in which the intermediate emulsion is stable, where stable is to be understood as that no visible phase separation occurs when the emulsion is left to quiescent conditions up to half an hour.

7. A process according to claim 5, where the intermediate emulsion is cooled until a hardness is obtained of which the Stevens value is at least 30 g in case the spread is meant for packing in a tub or at least 160 g when it is meant for packing in a wrapper.

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